

1/9

| PRIMITIVE | DESCRIPTION |
|-----------------|---|
| FYI | A INFORMS B OF SOMETHING |
| NOTE | A INFORMS B OF SOMETHING AND REQUIRES AN ACKNOWLEDGE MESSAGE BACK FROM B |
| ACKNOWLEDGE | A ACKNOWLEDGES SOMETHING IN RESPONSE TO A MESSAGE FROM B |
| COUNTER | B COUNTERS A PROPOSAL FROM A |
| REVERSE COUNTER | A COUNTERS B's COUNTER |
| DONE? | A ASSERTS THAT HE/SHE HAS SATISFIED B's REQUEST |
| COMMIT | A PROMISES TO DO SOMETHING FOR B |
| ACCEPT | A ACCEPTS AN OFFER OR COUNTER PROPOSAL FROM B |
| DECLINE | A DECLINES AN OFFER FROM B |
| OFFER | A OFFERS SOMETHING TO B |
| INVITE | A INVITES B TO BECOME A GROUP MEMBER |
| REDO? | A DECLARES TO B THAT HE/SHE REJECTS B's ASSERTION THAT B HAS FULFILLED B's PROMISE TO A |
| DONE | A DECLARES TO B THAT HE/SHE ACCEPTS B's ASSERTION THAT B HAS FULFILLED B's PROMISE TO A |
| WITHDRAW | A WITHDRAWS HIS/HER REQUEST OF B |
| OPT OUT | B DECLARES THAT HE/SHE WILL NOT FULFILL B's PROMISE TO A |
| REQUEST | A REQUESTS B TO TAKE SOME ACTION |
| QUESTION | A REQUESTS B TO PROVIDE SOMETHING |
| ANSWER | B ANSWERS A's QUESTION |

FIG. 1

2/9

FYI PROTOCOL

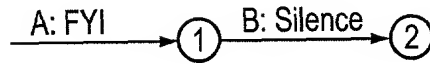


FIG. 2A

NOTE PROTOCOL

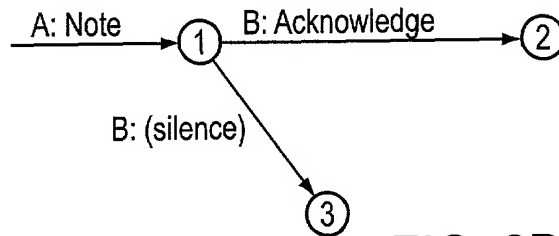


FIG. 2B

OFFER PROTOCOL

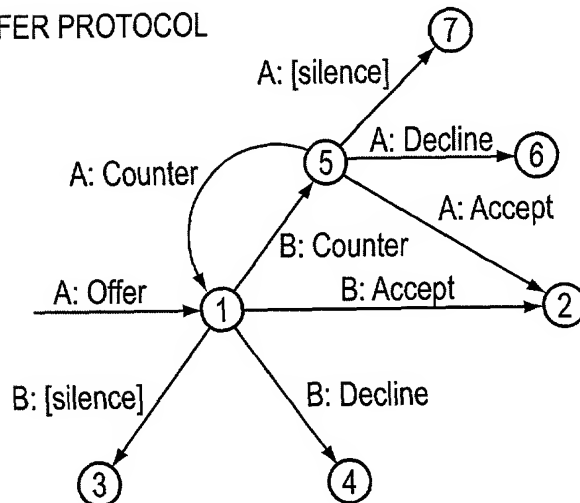


FIG. 2C

3/9

INVITE PROTOCOL

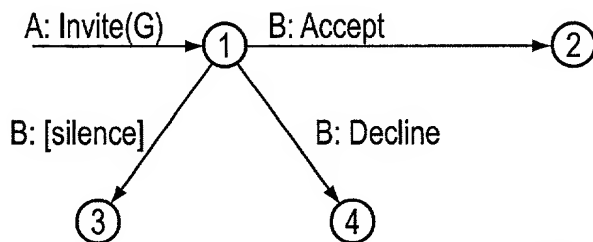


FIG. 2D

QUESTION PROTOCOL

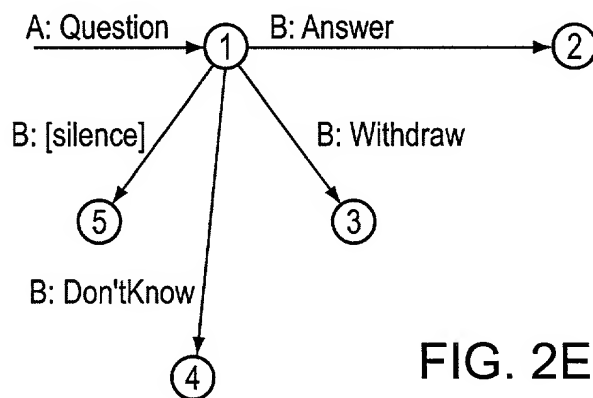


FIG. 2E

REQUEST PROTOCOL

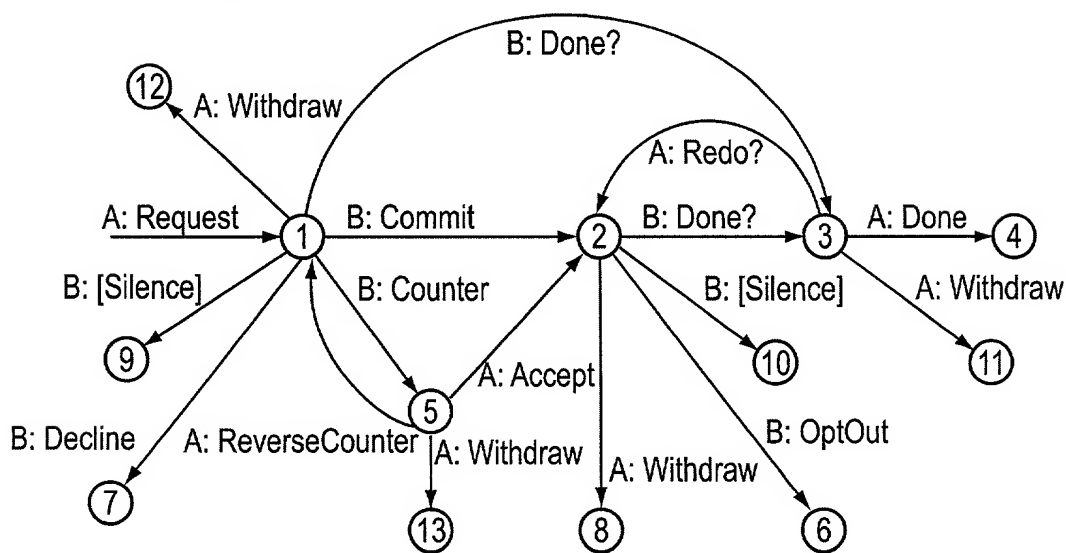


FIG. 2F

4/9

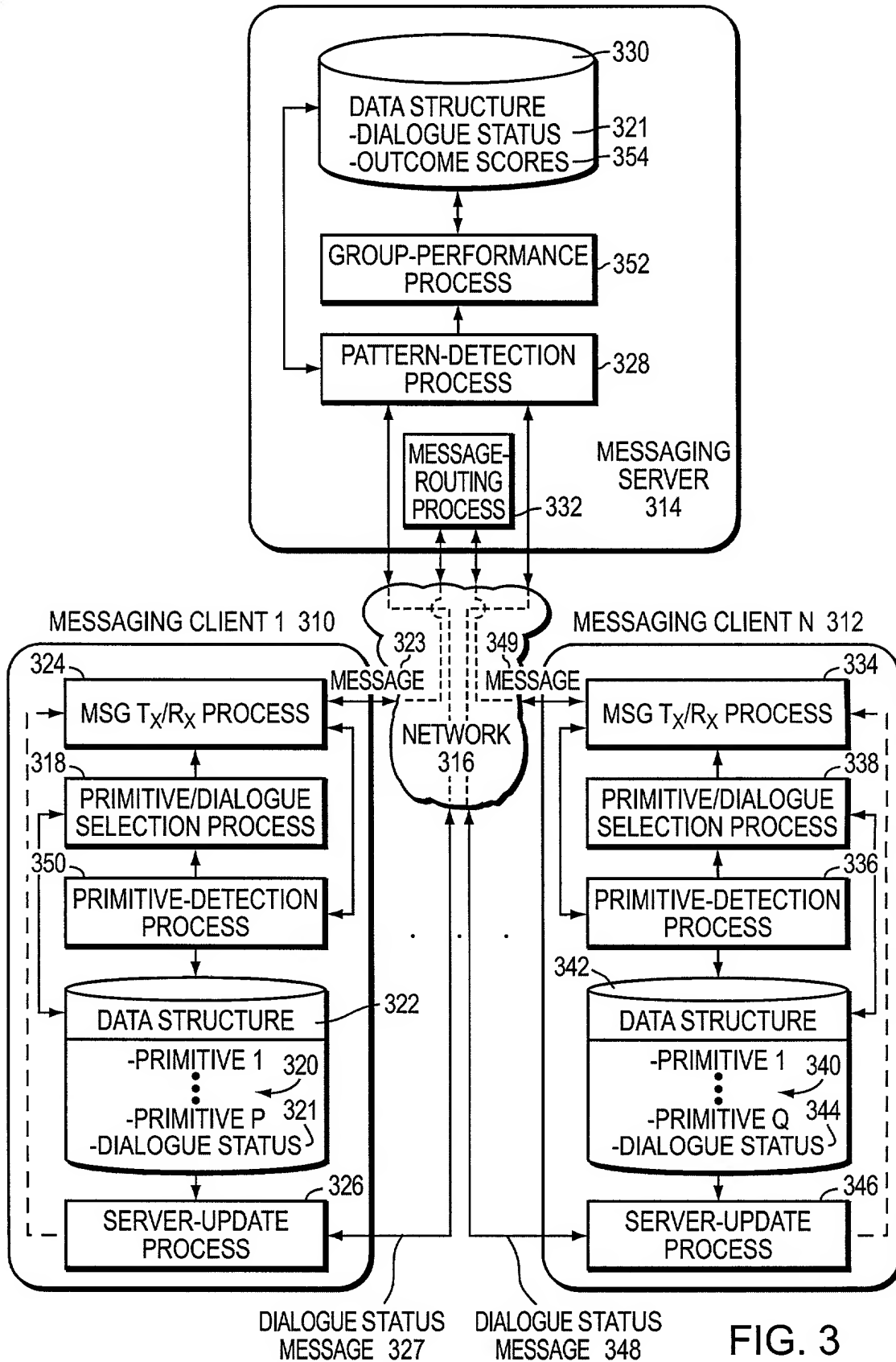


FIG. 3

5/9

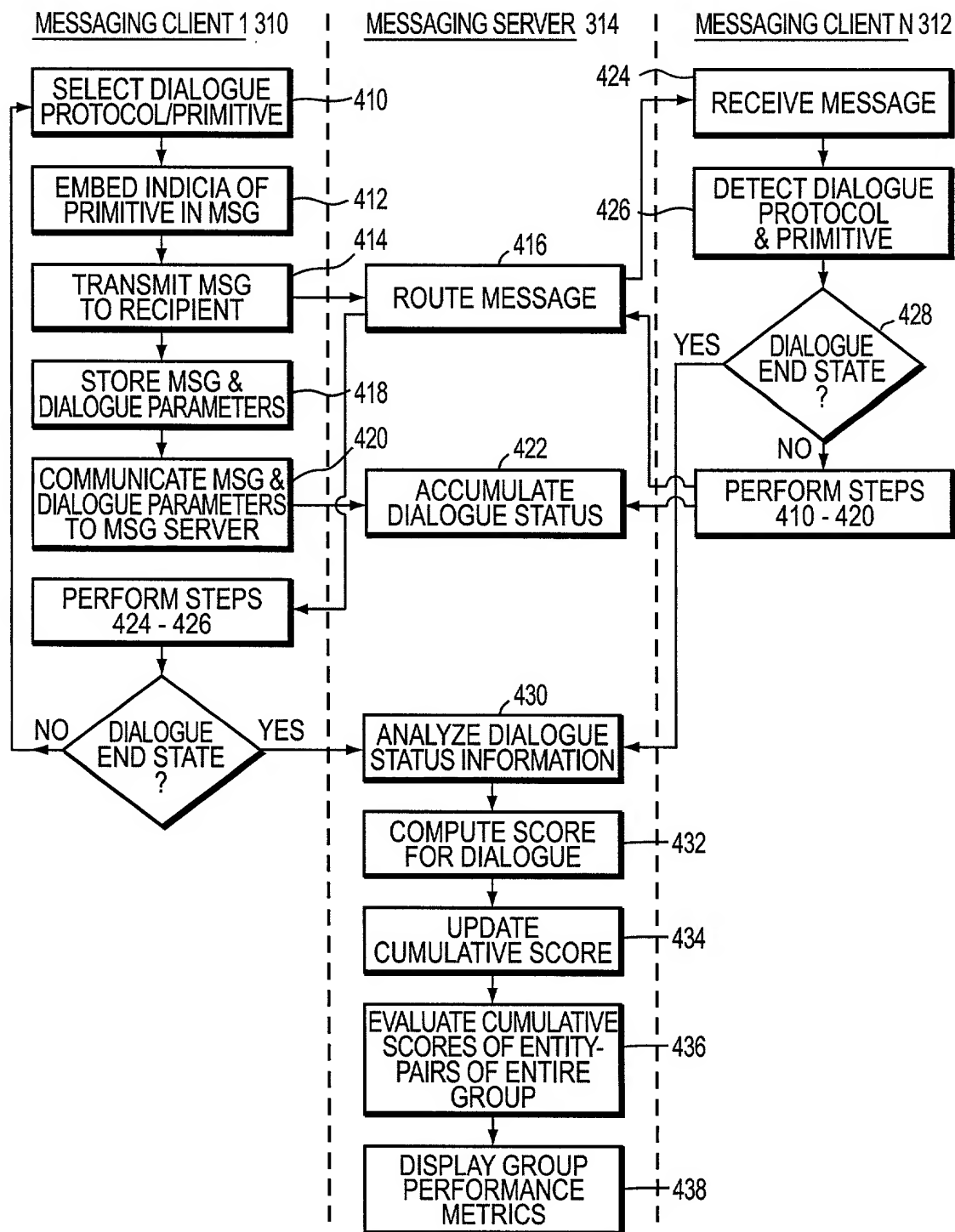


FIG. 4

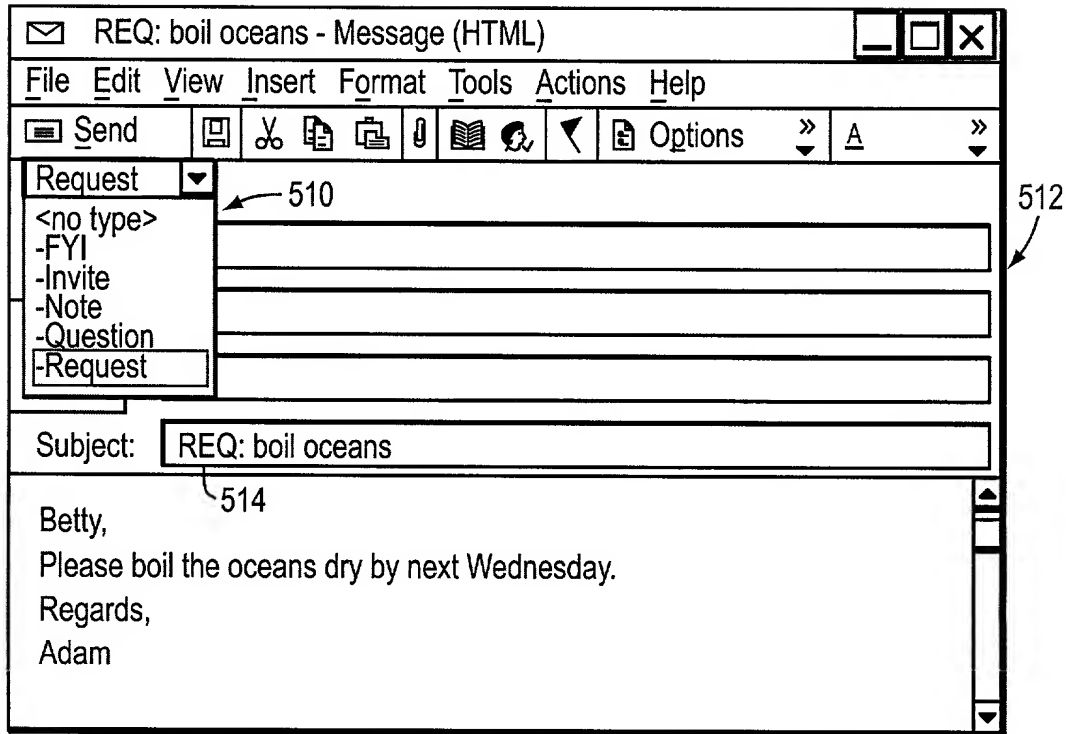


FIG. 5



FIG. 6



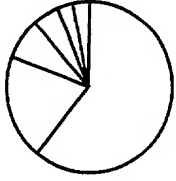
```

    graph LR
      810(( )) -- "A: Request" --> 812(( ))
      812 -- "B: Decline" --> 824(( ))
      812 -- "B: Counter" --> 820(( ))
      812 -- "B: Commit" --> 814(( ))
      812 -- "A: Withdraw" --> 822(( ))
      820 -- "A: Counter" --> 812
      820 -- "A: Accept" --> 814
      820 -- "A: Withdraw" --> 826(( ))
      814 -- "A: Redo" --> 812
      814 -- "B: Done?" --> 816(( ))
      814 -- "B: OptOut" --> 839(( ))
      814 -- "A: Withdraw" --> 828(( ))
      816 -- "A: Done?" --> 818(( ))
      816 -- "B: Done?" --> 812
      816 -- "A: Withdraw" --> 832(( ))
  
```

Figure 1 is a state transition diagram for a distributed transaction protocol. It consists of several states represented by circles and transitions labeled with events. The states are numbered 810 through 839. The transitions are labeled with events such as 'A: Request', 'B: Commit', 'A: Redo', 'B: Done?', 'A: Done?', 'B: Decline', 'B: Counter', 'A: Counter', 'A: Accept', 'A: Withdraw', 'B: OptOut', and 'A: Withdraw'. The diagram shows the flow of the protocol from an initial state (810) through various states (812, 814, 816, 818, 820, 822, 824, 826, 828, 832, 839) based on the sequence of events. For example, from state 810, an 'A: Request' event leads to state 812. From state 812, a 'B: Decline' event leads to state 824, a 'B: Counter' event leads to state 820, a 'B: Commit' event leads to state 814, and an 'A: Withdraw' event leads to state 822. From state 820, an 'A: Counter' event leads back to state 812, an 'A: Accept' event leads to state 814, and an 'A: Withdraw' event leads to state 826. From state 814, an 'A: Redo' event leads back to state 812, a 'B: Done?' event leads to state 816, a 'B: OptOut' event leads to state 839, and an 'A: Withdraw' event leads to state 828. From state 816, an 'A: Done?' event leads to state 818, a 'B: Done?' event leads back to state 812, and an 'A: Withdraw' event leads to state 832.

FIG. 8

9/9

| Active | Statement | Manage | Help |
|---------------------------------|-----------|--------|---|
| 30 Day Report for 12 April 2001 | | | |
| Group | Relative | Net | By Group |
| <u>Neptune Project</u> | ***** | 114 |  |
| <u>Pluto Project Team</u> | ***** | 48 | |
| <u>R&DMkting Planning</u> | ***** | 20 | |
| <u>Bridge Club</u> | ***** | 4 | |
| <u>Division Summer Outing</u> | ***** | 1 | |

NET CAPITAL ACROSS ALL GROUPS:

FIG. 9A

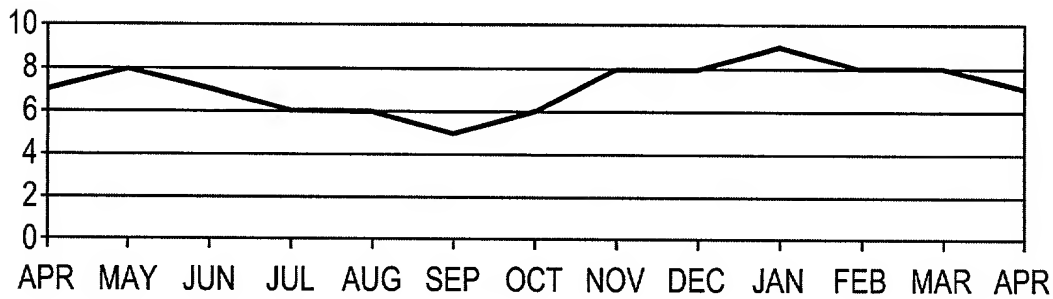


FIG. 9B

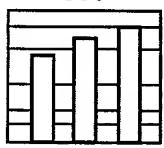

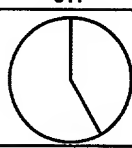
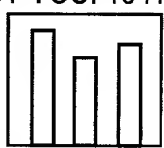
| MESSAGE FLOW | COMPLE-TIONS | GIVE-TAKE | RESPONSE | CLOSURE RATE |
|---|---|---|--|--|
| 800 | 510 | 0.7 | BY YOU: 16 HR | 87% |
|  |  |  |  | 91% OF REQUESTS MADE OF YOU. 21% DELEGATED |
| PAST 3 MONTHS PAST 12 MONTHS | PAST 3 MONTHS PAST 12 MONTHS | 200 GIVES 266 TAKES | PAST 3 MONTHS BY THEM: 22 HR | |

FIG. 9C